

STANDARDS DEVELOPMENT BRANCH OMCE



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THE
ONTARIO WATER RESOURCES
COMMISSION

WATER POLLUTION SURVEY

of the

POLICE VILLAGE OF LAMBETH

COUNTY OF MIDDLESEX

TD
380
.L36
1968
MOE

1968

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TD
380
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Report on a water pollution
survey of the village of Lambeth,
township of Westminster,
county of Middlesex.

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REPORT

ON A

WATER POLLUTION SURVEY

OF THE

POLICE VILLAGE OF LAMBETH

TOWNSHIP OF WESTMINSTER

COUNTY OF MIDDLESEX

1968

DISTRICT ENGINEERS BRANCH

DIVISION OF SANITARY ENGINEERING

ONTARIO WATER RESOURCES COMMISSION

REPORT

INTRODUCTION

A water pollution survey was conducted in the Police Village of Lambeth on July 4, 1968. The survey included the determination of the quality of waters being carried in and discharged from surface-water drains, storm sewers and watercourses within the municipality.

The Police Village of Lambeth with an assessed population of 2948 (1968 Municipal Directory) is located at the junction of Highways 2 and 4, in the Township of Westminster, County of Middlesex.

Drainage waters from the area are directed into the Dingman Creek watercourse which constitutes a part of the Thames River drainage basin.

WATER SUPPLY

Water for the municipality is obtained from 3 deep wells. A total of 55,828,000 gallons were pumped during 1967. This indicates an average daily consumption of 152,000 gallons. Iron removal treatment is provided.

POLLUTION CONTROL

Sanitary Sewage and Domestic Wastes

A part of the Police Village, known as Southland Park, consisting of approximately 200 single family units is serviced by sanitary collection sewers and a water pollution control plant. Treatment facilities include two Smith and Loveless "Oxigest" units each with a rated capacity of 35,000 U.S. gpd.

Individual septic tank systems are utilized for the treatment and disposal of domestic and commercial wastes throughout the remainder of the Police Village.

Refuse Disposal

Garbage and refuse collected in the Lambeth area is deposited in the Township of Westminster sanitary landfill site. This site is located in an excavation from which sand has been removed on the north side of the Pack Sideroad approximately 0.5 miles west of the Talbot Road.

At the time of inspection the operation appeared to be satisfactory with no indication of run-off or of seepage to any surface-water drain or watercourse.

WATER QUALITY

As a measure in locating sources of pollution and assessing the degree of pollution being discharged from the Police Village, water samples were collected where possible from the flows

of all located surface-water drains and storm sewers. Representative samples were also collected from Dingman Creek, the receiving watercourse.

The sanitary chemical analyses and results of bacteriological examinations of samples collected are listed in Tables I and II. The location of sampling points are designated on the accompanying plan by watercourse mileage distances from the mouth of the Thames River.

INTERPRETATION OF ANALYSES

As a guide in the interpretation of laboratory analyses, the Ontario Water Resources Commission water quality objectives for surface-water drains and watercourses are as follows:

(1) Surface-Water Drains (Storm Sewers)

5-Day BOD (Biochemical Oxygen Demand) -
Not greater than 15 parts per million (ppm)

Suspended Solids -
Not greater than 15 parts per million (ppm)

Anionic Detergent (ABS) -
The presence of anionic detergent in water samples usually indicates pollution from domestic sources.

(2) Watercourses

5-Day BOD (Biochemical Oxygen Demand) -
Not greater than 4 parts per million (ppm)

Coliform Organisms Count (Membrane Filter) -
Not greater than 2400 per 100 millilitres (ML)

SIGNIFICANCE OF ANALYSES

By comparing the laboratory analyses of samples collected from the municipal surface-water drains (Table I) with the water quality objective figures, it is noted that the BOD and suspended solids are within a satisfactory range. This indicates a relatively low level of pollution.

The high coliform organisms content and the presence of anionic detergent indicate that some inadequately treated domestic waste is gaining access to the drains.

Attention is directed to the excessively high BOD, suspended solids, anionic detergent, and coliform contents of the effluent being discharged from the Southland Park sewage treatment plant (Sample No. TD 124.6 T). This condition indicates that adequate treatment is not being attained in the plant operation and that the effluent being discharged is a source of pollution of the receiving watercourse. The receiving watercourse, Dingman Creek, shows a slight increase in the level of pollution as it passes through the Lambeth drainage area. This level of pollution is currently in excess of the water quality objective of 4 parts per million for 5-day Biochemical Oxygen Demand and indicates that the watercourse should not receive additional waste loadings.

Discharge from any future sewage collection and treatment system serving the existing or additional development should be directed to the Thames River.

SUMMARY

A water pollution survey was conducted in the Police Village of Lambeth in July 1968.

A relatively low level of pollution was indicated in all municipal surface-water drains examined. The presence of anionic detergent and an increased number of coliform organisms in several drains indicate that some inadequately treated domestic wastes are gaining access to the drains. Sources of these wastes should be located and removed. In the event that correction of this problem on an individual basis is not practicable, then consideration should be given to the provision of a communal sewage collection and treatment system.

The quality of effluent being discharged from the Southland Park sewage treatment plant does not conform to OWRC water quality objectives (Sample No. TD 124.6 T). This is, therefore, considered to be a source of pollution and of contributing polluting materials to Dingman Creek.

The quality of water in the Lambeth section of Dingman Creek is impaired to a degree slightly in excess of water quality objectives (Table I). It is, therefore, indicated that additional waste loadings should be discouraged to prevent further deterioration in water quality. The Thames River should be considered as the receiving watercourse for all future waste discharges.


RECOMMENDATIONS

(1) Measures should be continued to ensure that no inadequately treated domestic sewage or other wastes are permitted to be discharged into any surface-water drain or watercourse. In the event that correction of this problem on an individual basis is not practicable, then consideration should be given to the provision of a communal sewage collection and treatment system.

(2) The efficiency of treatment in the Southland Park sewage treatment plant should be improved. This measure will entail the provision of adequate inplant treatment facilities and improved operational technique.

(3) Any planning for additional sewerage works for the Lambeth area should not designate Dingham Creek as the receiving watercourse for effluents so produced.

Prepared by


for J. K. Ferris, Technician,
Division of Sanitary Engineering.

/bb

TABLE I

TOWNSHIP OF WESTMINSTER

POLICE VILLAGE OF LAMBETH - WATER POLLUTION SURVEYMUNICIPAL SURFACE WATER DRAINSOUTFALLS TO DINGMAN CREEK

<u>Sampling Point No.</u>	<u>Description of Sampling Point</u>	<u>5-Day BOD (ppm)</u>	<u>SOLIDS (ppm)</u>			<u>Anionic Detergent as ABS (ppm)</u>	<u>Coliforms per 100 ML Membrane Filter</u>
			<u>Total</u>	<u>Susp.</u>	<u>Diss.</u>		
TD 124.5 W	Dennis St. Surface Water Drain	1.9	486	7	479	0.1	7,000
TD 124.3 D	East of Outer Drive Surface Water Drain	9.4	510	8	502	0.1	36,000
TD 123.6 W	Talbot Street South Surface Water Drain	6.6	424	8	416	0.1	77,000
TD 122.5 W	Broadway St. Surface Water Drain	1.7	614	1	613	0.0	324
TD 122.4 D	Anguish Surface Water Drain	6.2	572	9	563	0.2	144,000
TD 124.6 T	Southland Park Sewage Treatment Plant Effluent	125.0	770	270	500	0.2	13,000,000

TABLE II

TOWNSHIP OF WESTMINSTER

POLICE VILLAGE OF LAMBETH - WATER POLLUTION SURVEY

DINGMAN CREEK

<u>Sampling Point No.</u>	<u>Description of Sampling Point</u>	<u>5-Day BOD (ppm)</u>	<u>SOLIDS (ppm)</u>			<u>Anionic Detergent as ABS (ppm)</u>	<u>Coliforms per 100 ML Membrane Filter</u>
			<u>Total</u>	<u>Susp.</u>	<u>Dis s.</u>		
TD 124.2	Dingman Creek Upstream from Lambeth	4.8	530	54	476	0.0	21,900
TD 122.48	Dingman Creek downstream from Lambeth	5.0	558	74	484	0.1	12,500

APPENDIX

COMMUNITY PLANNING

The need for effective planning has become more important today than ever before. Municipalities are being burdened with the rising costs of land and labour. Therefore, any project a community hopes to develop should be based on sound planning. Planning at all levels of government is essential but, community planning can be most effective if interest and initiative is generated at the local level. The enormous benefits accrued as a result of good planning can more than compensate for the initial investment.

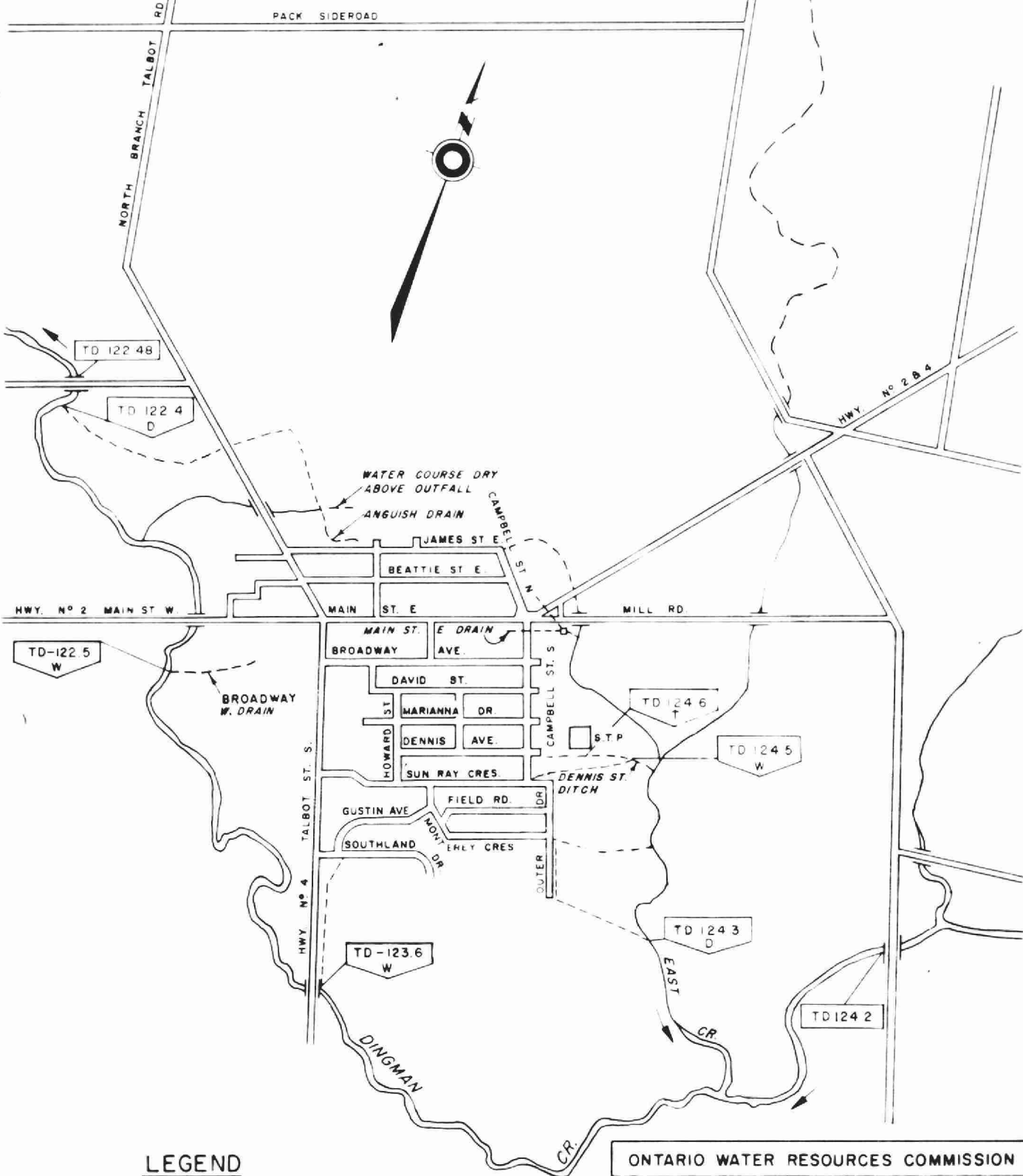
Community planning can be described as an effort to control and direct development effectively. This can best be achieved through the development of an official plan. An official plan is the stated intention of the local authorities with respect to orderly development within the planning area, that is prepared and set forth with professional assistance and meets the requirements as set out by the Provincial Planning Act. An official plan can be a joint effort by a number of municipalities which have common basic characteristics and common problems, or one municipality can establish a plan on its own initiative.

Orderly development yields future economy in services. Development in the community can be retarded where an official plan does not exist. A plan provides, among other things, the framework

for the rational design of water and sewage works and also the extensions of mains and collector sewer systems.

A local council having decided to proceed with a programme of community planning definitely should contact the Ontario Department of Municipal Affairs. Through its many branches, information and guidance is provided to all interested parties.

MUNICIPAL REFUSE
DISPOSAL SITE



LEGEND

TD-124.3 — SAMPLING POINT SHOWING STREAM AND MILEAGE

TD-126.4 W — STREAM AND MILEAGE AT OUTFALL
— TYPE OF OUTFALL

OUTFALL SYMBOL LETTERS

W — STORM SEWER
T — SEWAGE TREATMENT PLANT
D — OPEN DRAIN

ONTARIO WATER RESOURCES COMMISSION

TOWNSHIP OF WESTMINSTER
POLICE VILLAGE OF LAMBETH

WATER POLLUTION SURVEY 1968

SCALE: 0 1/10 1/5 3/10 2/5 1/2 MILES

DRAWN BY: C.A.G.

DATE: JAN, 1969

CHECKED BY

DRAWING NO: 64-81